CU722-2
9/29/88

SEPTEMBER 26, 1988

CableVision

INFORMATION AND ANALYSIS FOR CABLE TELEVISION MANAGEMENT

ANIXTER UNVEILS FIBER SYSTEM

HDTV TRAPPED IN TRADE DISPUTE

ANALYZING EQUIPMENT SUPPLIERS

BIG FLAP OVER CARRIAGE FEES

BATTING .980 ON MUST-CARRY

CONSTRUCTION BOOM CONTINUES: $1.5 BILLION OR MORE SEEN IN '89

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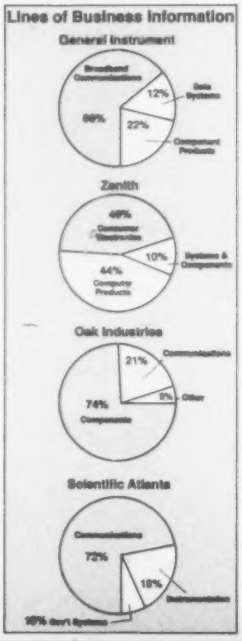

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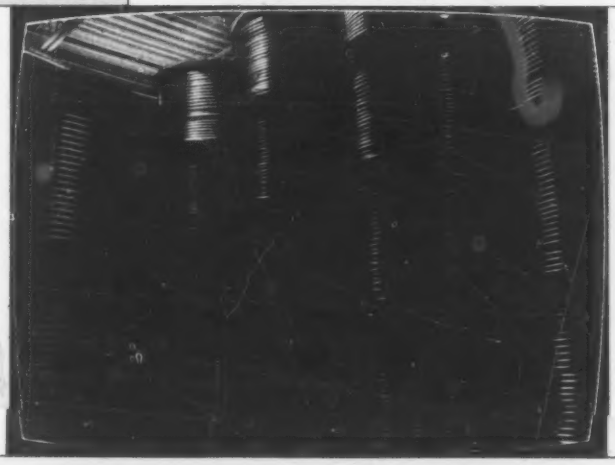

COVER STORY

Booming into '89 38
The cable construction industry, which recovered its feet in 1987's "Year of the Rebuild," will meet or exceed our earlier projection of $1.4 billion in activity for 1988. And the momentum likely will continue into 1989 and beyond.

Between the Lines

Running the numbers on the must-carry survey

The Federal Communications Commission has transmitted to Congress a statistical picture of what the post-*Quincy* world looks like, and the image it conveys is a hall of mirrors in which most interested parties claim the information supports their sharply contrasting views: broadcasters say the data on the number of stations dropped or repositioned is evidence of a need for new must-carry rules, while the cable industry claims the numbers support its contention that little dislocation has occurred.

It cannot be denied that hundreds of local television stations have been dropped or repositioned by thousands of cable systems. But on balance there seems to be some merit in the argument by the National Cable Television Association that this has occurred for understandable reasons (see charts, p. 57).

For example, the FCC data indicate that out of the 1,820 instances of stations being dropped or denied carriage, 1,152 or 63 percent were stations located more than 35 miles from the system headend. Some 661 of the instances, or 36 percent, were stations located more than 51 miles from the headend. Now, the legal definition of must-carry has changed somewhat over the years, but in our understanding, being within 35 miles of the headend always has been a prime criteria. If a station were more than 35 miles away, it had to gain must-carry status through the significantly viewed test, be located in a hyphenated market or have retained a sharp Washington lawyer.

Further, the FCC data also support the contention that a number of the drops were the result of channel capacity problems, especially in systems with fewer than 5,000 subscribers. Of the 869 systems that reported dropping or denying carriage to one or more stations, only eight were systems with 55 or more channels. On the other hand, of the 52 systems that reported dropping four stations, 77 percent have 35 or fewer available channels (freeing up 11 percent of total capacity); and of the 61 systems that reported dropping five or more stations, 72 percent have 35 or fewer available channels (freeing up 14 percent of capacity).

It also seems safe to assume that few systems dropped or denied carriage to a broadcasting entity not already represented on the channel lineup, i.e., a commercial broadcast network or PBS. Going back to the 1,820 total incidents of drops and carriage denials reported by 869 systems, 595 were network affiliates and 463 were educational, or 58 percent of the total. Bolstering the assumption that most of these were duplicative stations is the fact that 511 of the 595 network affiliates dropped or denied carriage, or 86 percent, were more than 35 miles from the headend; among the 463 educational stations dropped or denied carriage, 313, or 68 percent, were more than 35 miles away.

Now the NCTA has come out with its own must-carry survey (page 12), which it says shows that "virtually all cable operators continue to carry all local stations, even though they are not legally required to do so." The association survey says cable systems continued to carry 98 percent of all stations that would have qualified for carriage under the compromise set of rules thrown out last December. Further, the survey says that 91 percent of cable systems carrying qualified stations have not shifted them to other channels; 80 percent of those that were shifted were moved to their off-air slot or a lower number.

It probably is true that must-carry, like death and taxes, always will be with the cable industry. But it is refreshing to see that the leadership of the National Association of Broadcasters is focusing on an issue of more strategic importance to the future of local stations: whether or not the telcos should be allowed into the video field. After all, Eddie Fritts knows that Jim Mooney has shown a willingness to compromise on carriage questions. He understandably has his doubts whether a Lee Cox will.

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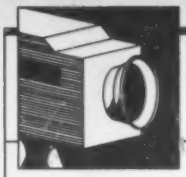


PROGRAMMING

It's grow, grow, grow for basics...

By Wayne Friedman

Basic programming services are like incumbent politicians. Once a channel builds up name recognition among constituents, the service creates its own momentum and aura, making it tough to unseat. "Operators know once you are on, it's very difficult to take you off," says John Hendricks, chairman and CEO of The Discovery Channel.

This is clear from surveying the growth of basic services over the last two years. Among 39 basic services, only two—Tempo Television and The Inspirational Network (formerly PTL)—have lost subs.

The secrets of success are not so secret: find a programming niche and make sure you're the first in the marketplace. Those factors, plus financial staying power, are the building blocks for the double-digit growth of the likes of ESPN, CNN, USA, TBS, MTV, and TNN. For newer channels, MSO equity is an added factor because channel capacity isn't as plentiful as it once was. Rounding out the formula for growth are good affiliate relations personnel, reasonable or no license fees, special advertising incentives and promotion strength.

The Discovery Channel has been the most successful in gaining subs over the past two years for these reasons. On *CableVision*'s chart of program networks (page 30), TDC rocketed by more than 25 million subscribers from September 1986 to September 1988, making it the service with the greatest rate of growth at 75 percent.

While some say the reason for TDC's meteoric rise is MSO equity investments, Hendricks says it really has more to do with being a "full-niche service." That means not existing as a subset of a particular category. TDC is not just science, he says, but history documentaries and nature programming.

Go broader

Some interpret this "full niche" to mean a broader range of programming. Jerry Maglio, United Artists executive vice president of marketing and programming, concurs that the broader programmed services generally grow faster than the narrowcast networks. "That's always been the case," he says. But he adds there is a danger. "We must avoid straight popularity contests. If we look only to broad-based networks, we'd be broadcasters." And that is not necessarily cable's mission, he says.

While some of the broader and more mature services have been growing anywhere in the 10 million to 15 million sub range over this two-year time period, other lesser-penetrated or narrowly perceived networks also have realized substantial growth. BET, The Learning Channel, C-SPAN II, The Nostalgia Channel and The Silent Network have made respectable gains in their subscribers counts, anywhere from three million to seven million subs. Robert Shuman, president and COO of The Learning Channel, realizes

See **Growth**, *page 28*

...while a flap arises over fees

By Richard Tedesco

USA Network is upping the ante on affiliate fees as part of the effort to bolster its program lineup, but major MSOs are balking at this latest pitch in the industry's punch-through programming era.

Other basic networks, including Financial News Network and Black Entertainment Television, also are contemplating major rate structure revisions. And the resulting fallout could strain relationships that seemed to be sweetening between MSOs and program suppliers in the wake of ESPN's landmark NFL deal.

Basic services pursuing rate hike strategies could fall off the system maps of some operators as MSOs make hard-nosed business decisions about relative programing values.

"People are going to become much more conscious to evaluate the performance of services," says Robert Stengel, senior vice president of programming for Continental Cablevision. "Some services are going to find they won't measure up. Something's got to give."

Jones Intercable and Viacom are among several MSOs currently considering the possibility of dumping USA, according to industry sources, over its plans to impose a five cent rate hike in January 1989, followed by a similar hike in 1990.

Jim Honiotes, director of programing for Jones, declined comment on the situation beyond saying, "We're still discussing the entire issue."

The issue, in USA's case, centers on its recent acquisitions of *Miami Vice*, *Murder, She Wrote* and a deal for 24 made-for-TV movies to the tune of $250 million over the next two years.

MSO reaction to the USA rate move is not a reversal of field for the industry, according to Edward Bennett, Viacom executive vice president. "We're saying we want improved programming and we're willing to pay for it. But it's got to be reasonable," he says.

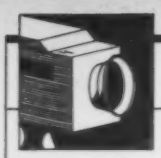
Operators are questioning the logic of supporting MCA Inc. and Paramount Pictures, USA's parent companies, with increased affiliate fees for programming deals USA made with those companies, according to industry executives.

Industry sources are saying NBC's new CNBC service and Turner Network Television could become replacements for USA in some MSOs' channel lineups.

USA's proposed increases would reportedly double or triple its license fees to some affiliates. The top of its rate card currently is 13 cents per subscriber per month.

"It's primarily based on the commitment to original programming we've made over the next two years," says

See **Fees**, *page 32*



Growth, *from page 24*

that TLC might never be the size of ESPN, but it doesn't mean it won't continue growing. It added about six million subscribers over the last two years. He says the network's next goal is to boost its current 12.8 million sub level to 20 million by October '89.

Elsewhere in basic, religious channels, shopping networks and other specialty services also have witnessed sub gains from one to three million over the period. Of the only two to lose ground, The Inspirational Channel's woes are linked to the well publicized travails of its leader, Jim Bakker. And Tempo Television's loss of subs, says Larry Gerbrandt, senior analyst at Paul Kagan Associates, is mainly due to the inconsistancies of determining full-time from part-time subscribers.

Gaining critical mass

Because the basic services generally have been growing subs at a rate of five to six percent a year, some executives say that, for the most part, they can't help but grow. "Why would anybody lose (subscribers)?" asks Lloyd Werner, senior vice president of sales and marketing for Group W Satellite Communications, which markets the The Nashville Network and Baltimore-Washington regional net Home Team Sports. "You'd have to work at it to lose (subs)." Executives term this "internal" or "natural" growth that occurs when new subscribers are added to existing systems. To a lesser extent it also occurs through rebuilds, newbuilds or a dissolving of tiers.

To latch on to this easy growth, where services are pulled along almost without effort, many need first to obtain a critical mass of subscribers. Once this occurs, and they maintain quality programming and good affiliate relations, the next stage is somewhat easier. "Once you get past 10 million homes, a network creates its own momentum," says TLC's Shuman. "It has product recognition."

That critical mass is, by no coincidence, linked to ratings. A.C. Nielsen had deemed it worthy to measure a cable network when it reaches around 12 million homes, about 15 percent of U.S. households. With the new people meter sample that threshold number has dropped to around four million. When a network begins to receive ratings numbers, advertisers are more likely to buy time. This, says Kagan's Gerbrandt, in turn helps convince operators of the channels' worth in the marketplace.

Eyeing the MSO investor

The big question to growth is MSO ownership. Is it always needed? Executives say these days it surely helps. But first you need an idea, an untouched niche of programming. Second, the idea needs to be sold to operators. When operators are hooked, they want to participate in any upside financial gains. Many services, including Discovery, Movietime, CVN, QVC, AMC and the new TNT are finding happiness through increased carriage by operator-owners. MSOs so aided the growth of shopping channels that not one but many have thrived. CVN bolted out of the gates by adding 19.6 million subscribers, making it the second best performer behind TDC over the last two years. QVC, another MSO investment, has gained 12.6 million subs over the same period.

For Discovery, Hendricks agrees that MSO investment provided some punch but he says that's not the whole story. He's quick to point out that out of the network's 34 million subscribers, only 7.5 million come from its MSO partners, TCI, United, Newhouse and Cox. A programming executive says, however, that having major MSOs on board gives a channel a stamp of approval for the rest of the industry. "It's still the good ol' boy network," he says, that pulls in other systems.

Other experts also point out that Discovery's timing was on the money. It launched just before the industry was rate deregulated and systems were looking to add services to justify monthly price hikes. Also, says Maglio, TDC offered systems a percentage of its national advertising revenues as an incentive to sign on.

Deregulation also helped other networks. American Movie Classics, which has been making the move from a pay to a basic or a bonus to basic, is the third biggest gainer, adding 19 million subscribers in the two-year period. Shopping channels also took advantage of the need by operators to add new product.

But the dominant factor in creating a successful cable network is being there first. Hendricks points out that TDC was the first fully documentary/science/nature channel in the marketplace. Other examples: CNN/Headline News snuffing out Satellite News Channel; MTV domination over Turner's Cable Music Channel and the now-extinct (on cable) Hit Video USA; The Nashville Network's tremendous lead over Country Music Television, American Movie Classics advantage over The Nostalgia Channel, and Movietime's entertainment/promotion/news concept over a handful of other competitors.

Many point to this factor alone in saying that CNBC, despite its NBC backing, could encounter tough going in its fight with Financial News Network.

Only the shopping channels seem the exception to this rule. CVN has blown by Home Shopping Network I in terms of subs, because, says one observer, of HSN initial intransigence with cable operators, stemming from when it bought broadcast stations, viewed as cable competitors.

Squeezing in more niches

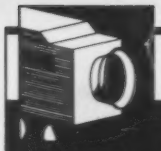
As difficult as it may appear to start new channels, there always seems to be room for good ideas. "How did all those shopping channels get started if there were channel capacity (problems)?" asks Group W's Werner. The same could be said of TNT, experts surmize, and VISN, a interdenominational religious channel expected to launch with a healthy seven million subs and 18 million in operator commitments.

Kagan's Gerbrandt says he has seen numerous ideas by entrepreneurs for starting new channels. He says most all are targeted to certain demographics, including ones focused on comedy, how-to, talk, international, game show and magazine programming.

All roads point higher for those networks above the critical mass of 10 to 15 million subs. Estimates of five to six percent annual growth in subscribers through the 1990s appear to be conservative by most estimates.

And more networks probably are on the way in a cycle running in 12- to 18-month periods. Two years ago the shopping networks had their go; last year it was Discovery's and AMC's turn; this year, first Movietime, then VISN and finally TNT seem to be making a run. Next year could be CNBC's day in the sun, or some other idea not yet born.

No matter. But for any network starting out there is this one truism: "It's not going to fail if TCI is behind it." TCI doesn't have ownership in CNBC, but it has recommended to its affiliated systems that CNBC might be the way to go. As the defacto industry leader, TCI's adoption of this new variation of the MSO-programmer dance will be watched carefully by many programming entrepreneurs. ■

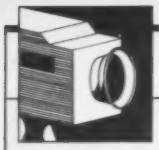


National Programming Service Growth

1986-1988

Basic Network	Affiliates 9/86	Affiliates 9/88	Subscribers 9/86	Subscribers 9/88	Affiliate Change/%	Subscriber Change/%
ACTS Satellite	225	358	4,000,000	6,600,000	133/37	2,600,000/39
Arts & Entertainment	2,200	2,600	19,700,000	34,200,000	400/15	14,500,000/42
BET	590	1,200	13,015,183	20,000,000	610/50	6,984,817/34
CNN	9,386	11,860	33,100,000	46,238,000	2,474/21	13,138,000/28
CVN	20	1,850	200,000	20,000,000	1,830/98	19,600,000/98
CBN Family Channel	7,188	8,215	31,000,000	41,642,000	1,027/12	10,642,000/25
C-SPAN	2,250	3,014	25,250,000	39,200,000	464/15	13,950,000/35
C-SPAN II	264	539	7,500,000	15,400,000	275/51	7,900,000/51
Country Music TV	425	862	6,200,000	8,000,000	437/51	1,800,000/22
Discovery Channel	952	3,567	8,580,299	33,800,000	2,615/73	25,219,701/75
Eco/Galavision	234	300	183,000	1,000,000	66/22	817,000/81
ESPN	13,878	19,300	36,900,000	47,800,000	5,247/28	10,900,000/23
Eternal Word TV	314	461	4,800,000	10,100,000	147/32	5,300,000/52
FamilyNet/LBN	90	47	1,300,000	1,200,000	-43/91	-100,000/ 8
Fashion Channel	—	600	—	10,100,000	600/—	10,100,000/—
FNN	1,360	3,500	22,300,000	30,500,000	2,140/61	8,200,000/27
Headline News	3,157	3,228	18,039,000	32,693,000	71/ 2	14,654,000/45
HSN I	324	1,342	8,000,000	15,700,000	1,108/76	7,700,000/49
Inspirational Network	1,300	850	13,000,000	10,500,000	-350/36	-2,500,000/23
Learning Channel	760	930	6,841,455	12,800,000	170/18	5,958,545/46
Lifetime	2,987	3,600	25,800,000	40,800,000	613/17	15,000,000/37
Movietime	—	200	—	7,000,000	200/—	7,000,000/—
MTV	4,269	5,010	30,700,000	42,700,000	741/15	12,000,000/28
Nashville Network	3,770	7,335	26,600,000	41,051,392	3,565/49	14,451,392/35
Nickelodeon	4,501	6,195	29,000,000	41,200,000	1,694/27	12,200,000/30
Nostalgia Channel	125	290	350,000	3,500,000	165/57	3,150,000/90
Prevue Guide	—	175	—	5,000,000	175/—	5,000,000/—
QVC Network	—	931	—	12,600,000	931/—	12,600,000/—
Shop TV Network	—	119	6,800,000	4,400,000	110/—	4,400,000/—
Silent Network	206	380	36,078,000	10,300,000	174/45	3,500,000/34
Superstation TBS	10,790	9,214	12,000,000	45,629,000	-1,576/17	9,551,000/21
Tempo TV	640	700	—	8,000,000	60/ 8	4,000,000/50
Travel Channel	—	300		11,000,000	300/—	11,000,000/—
Trinity	433	650	6,210,000	8,000,000	217/33	1,790,000/22
USA Network	6,500	10,100	33,000,000	45,200,000	3,600/36	12,200,000/27
VH-1	1,189	2,140	14,100,000	27,900,000	951/44	13,800,000/49
Weather Channel	2,100	3,240	20,500,000	36,100,000	1,140/35	15,600,000/43
WGN	8,325	11,000	20,900,000	24,900,000	2,675/24	4,000,000/16
WWOR	1,877	2,499	8,430,680	12,302,073	622/25	3,871,393/31
Pay Network						
AMC*	258	1,500	710,000	20,000,000	1,242/82	19,290,000/96
Bravo*	240	350	360,000	1,300,000	110/31	940,000/72
Cinemax	3,300	3,650	3,700,000	5,100,000	350/ 9	1,400,000/27
Disney Channel	2,958	5,000	2,500,000	3,810,000	2,045/40	1,260,000/33
HBO	6,900	7,400	14,600,000	15,900,000	500/ 6	1,300,000/ 8
The Movie Channel	3,250	3,250	3,250,000	2,600,000	0/ 0	-650,000/25
Playboy Channel	580	550	732,000	480,000	-30/ 5	-242,000/49
Showtime	3,200	6,000	5,400,000	6,300,000	2,800/46	900,000/14

Figures taken from CV subscriber counts (9/29/86 and 9/12/88 issues)
*Offered as a bonus-to-basic channel



Fees, *from page 24*

Kay Koplovitz, USA president and chief executive officer, defending the proposed increase.

But what appears to be a modest proposal from USA could prompt volatile reactions from operators paying renewed attention to their bottom lines.

"Just because the NFL's worth an extra dime doesn't mean an acquisition another supplier makes is worth a nickel," Continental's Stengel observes.

But in the case of USA, Koplovitz argues that five cents is a "very justifiable increase" in light of the network's projected expenditures of $250 million over the next two years on a series of 24 made-for-TV movies, along with the off-network series *Murder, She Wrote* and *Miami Vice*.

"I really think that USA is the perfect example of a network that has put its money on the screen," Koplovitz declares, and says she's getting positive feedback from most operators about the network's programing initiatives.

ESPN set the precedent for MSO support of "punch-through programming"—the popular catch-phrase for broadcast network-quality fare—with its successful campaign for a 9.5-cent per-subscriber increment from operators for its $153 million NFL pact.

Turner Broadcasting, one of the programming companies in which MSOs now hold a dominant interest, followed that lead with its request for a $1 per-sub increment for its production of the 1990 Goodwill Games.

Some services feel that it's time for MSOs to give them their share of additional support. Financial News Network currently is standardizing its rate card, attempting to require all affiliates to pay a 3.5 cent rate per subscriber, up from a previous average of 1.5 cents.

"FNN has been ad-supported for the past seven years. We feel now that operators should contribute to that," says Gil Faccio, FNN senior vice president of affiliate relations.

He contends that FNN actually is lowering its rate card and simply dealing with all affiliates equally without granting volume discounts. "We weren't really enforcing our rate card. We want to do that now," he explains.

BET anticipates widespread acceptance of its proposed rate hike when official notice goes out this week because it's a "reasonable" increase tied to new programming and marketing support, according to Robert Johnson, BET president.

He points out that the new five cent rate—its first rate increase in five years over an existing average rate of 2.5 cents—could bring BET big-name black talent on a new talk show, game shows and a black soap opera planned for the fall. "That's the kind of punch that we're looking for, the power to promote big-name stars," says Johnson, who aims to put BET among the top five basic cable services.

But other programmers don't buy the logic that operators should be obliged to back big programming plays. "We as cable programmers can't consistently turn around and bang the operators for more money," says Lloyd Werner, senior vice president of sales and marketing for The Nashville Network.

Lifetime is one service looking to hold the line on affiliate fees despite recent initiatives to schedule top-drawer shows. While it plans to re-run *The Days and Nights of Molly Dodd* and create original episodes of the series, Lifetime will try to stick to its existing rate structure, according to Seymour Kaplan, Lifetime vice president of affiliate relations.

"The costs are going up, but we want the major play of our revenue stream to come from Madison Avenue," Kaplan says, explaining that the network's current revenue split is 75/25 between advertising and affiliate fees.

Lifetime is maintaining a "predictable" growth cycle, according to Kaplan, which should enable it to stick to projected rate increases of 11 cents per subscriber per month in 1989 and 12 cents in 1990, from the current level of 10 cents.

But he made it clear that competitive pressure is on all basic cable networks to upgrade programming in what has become an expensive game. "To play in today's game is a major play. To be competitive in this environment, we have to step up to the plate and go after quality programming," he says.

Sheer subscriber growth, from 25 million two years ago to approximately 40 million today, along with an increase in ad rates and strong sales of 60 percent to 70 percent in this year's upfront market, are easing the financial pressure on Lifetime.

The perception in the industry is

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PROGRAMMING/Pay-Per-View Supply Chart

October

Bestseller — Source: Orion
MPAA Rating: R — Running Time: 92 mins.
Cast: Brian Dennehy, James Woods

Broadcast News — Source: 20th Century-Fox
MPAA Rating: R — Running Time: 113 mins.
Cast: Albert Brooks, William Hurt, Holly Hunter

Frantic — Source: Warner Bros.
MPAA Rating: R — Running Time: 120 mins.
Cast: Harrison Ford

Ghoulies 2 — Source: Vestron
MPAA Rating: PG — Running Time: *
Cast: Robin Williams

The House On Carroll Street — Source: Universal
MPAA Rating: PG — Running Time: 100 mins.
Cast: Jeff Daniels, Kelly McGillis

Johnny Be Good — Source: 20th Century-Fox
MPAA Rating: R — Running Time: 86 mins.
Cast: Anthony Michael Hall

Lady In White — Source: New Century/Vista
MPAA Rating: PG-13 — Running Time: *

Little Nikita — Source: Columbia
MPAA Rating: PG — Running Time: *
Cast: River Phoenix, Sidney Poitier

Masquerade — Source: MGM/UA
MPAA Rating: R — Running Time: 91 mins.
Cast: Rob Lowe

Moonstruck — Source: MGM/UA
MPAA Rating: PG — Running Time: 101 mins.
Cast: Cher, Olympia Dukakis, Vincent Gardenia

Pinocchio & The Emperor Of The Night — Source: New World
MPAA Rating: G — Running Time: *
Cast: Animated Film

Repentance — Source: Cannon
MPAA Rating: R — Running Time: *

Shakedown — Source: Universal
MPAA Rating: R — Running Time: *

She's Having A Baby — Source: Paramount
MPAA Rating: PG — Running Time: 106 mins.
Cast: Kevin Bacon, Elizabeth McGovern, Alec Baldwin

The Last Emperor — Source: Columbia
MPAA Rating: PG-13 — Running Time: *
Cast: John Lone, Peter O'Toole

The Serpent & The Rainbow — Source: Universal
MPAA Rating: R — Running Time: *

The Wrong Guys — Source: HBO Enterprises
MPAA Rating: PG — Running Time: *
Cast: Franklin Ajaye, Tim Thomerson

November

Above The Law — Source: Warner Bros.
MPAA Rating: R — Running Time: *
Cast: Steven Segal

A New Life — Source: Paramount
MPAA Rating: PG-13 — Running Time: 106 mins.
Cast: Alan Alda, Veronica Hamel, Hal Linden, Ann Margaret

Beetlejuice — Source: Warner Bros.
MPAA Rating: PG — Running Time: 90 mins.
Cast: Geena Davis, Michael Keaton

Biloxi Blues — Source: Universal
MPAA Rating: PG-13 — Running Time: *
Cast: Matthew Broderick, Christopher Walken

Bright Lights, Big City — Source: MGM/UA
MPAA Rating: R — Running Time: 107 mins.
Cast: Michael J. Fox, Phoebe Cates

Friday The 13th: The New Blood — Source: Paramount
MPAA Rating: R — Running Time: 90 mins.

I've Heard The Mermaids Singing — Source: Miramax
MPAA Rating: PG — Running Time: *

Jack's Back — Source: Paramount
MPAA Rating: R — Running Time: 97 mins.
Cast: Cynthia Gibb, James Spader

Permanent Record — Source: Paramount
MPAA Rating: PG-13 — Running Time: 91 mins.
Cast: Alan Boyce, Michelle Meyrink, Keanu Reeves

Plain Clothes — Source: Paramount
MPAA Rating: PG — Running Time: 98 mins.
Cast: Harry Shearer, Robert Stack

Sunset — Source: Columbia
MPAA Rating: R — Running Time: *
Cast: James Garner, Bruce Willis

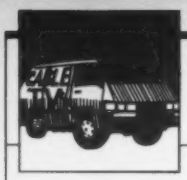
The Seventh Sign — Source: Columbia
MPAA Rating: R — Running Time: *
Cast: Demi Moore

Note: Running times are approximate.
NR indicates film not rated by MPAA.
* Unavailable at presstime.

Film information provided to International Thomson Communications Inc. by distributors.

Pay-Per-View Services Profile

	LAUNCH	DELIVERY	ENCRYPTION	PROGRAMMING	ADDRESSABLE SUBSCRIBERS
Cable Video Store	April 1, 1986	Galaxy I, tr.5	VideoCipher II	Movies, how-to's, special events.	1,000,000
Home Premiere Television	December 4, 1987	Galaxy III, tr. 16	VideoCipher II	Movies and special events.	1,400,000
Playboy On Demand	September 1, 1987	Satcom IV, tr.24	VideoCipher II	Original Playboy programs and adult motion pictures.	1,000,000
Request Television	November 27, 1985	R-1: Satcom III-R, tr. 19 R-2: Satcom III-R, tr. 4	VideoCipher II	Two channels offering movies and special events.	3,300,000
Tuxxedo Network	December 1, 1987	Galaxy II, tr. 10	VideoCipher II	Adult movies and special events.	200,000
Viewer's Choice	November 26, 1985	VC-1: Galaxy III, tr. 21, VC-2: Galaxy III, tr. 18	VideoCipher II	Two channels of movies and special events.	3,200,000
Zap! Movies	June 5, 1986	Spacenet II, tr.1,3,11,23	VideoCipher II	Channel 1: movies. Channel 2: cult movies and video rental favorites. Channel 3: additional plays of Chs. 1/2 titles. Channel 4: previews and barker information.	60,000



Construction surge seen booming into '89

By Craig Kuhl

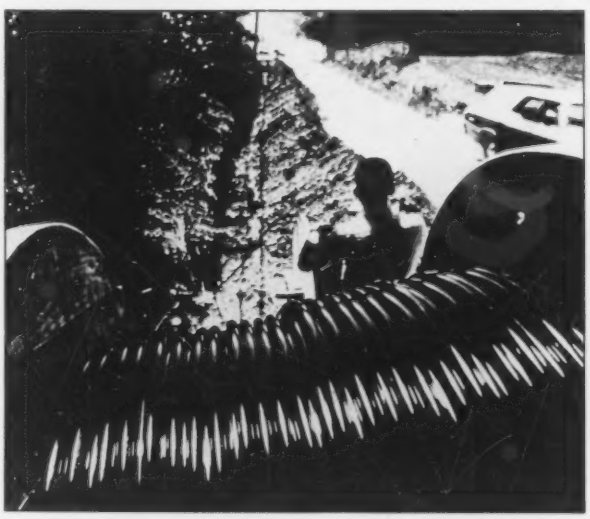
A continuing surge in rebuilds, extensions and retrofits, along with a widening gap between proponents of addressable and non-addressable systems, are two major issues now driving the cable construction business through its second frenzied year in a row. And indications are that the boom will continue at a 10 percent or more rate of increase into 1989.

Construction spending in 1987, dubbed "The Year of the Rebuild," totaled $1.253 billion, according to *CableVision*'s 13th annual construction survey (2/15/88 p.46). That year saw 22,000 miles of new plant and 43,000 more miles of rebuilds and upgrades, according to the magazine's survey, which went on to predict $1.4 billion in construction spending this year.

Developments since then show that the $1.4 billion spending prediction is on target. In fact, the figure may be surpassed slightly by year-end with the emergence of MSO rural rebuilds and extensions and an increase in R&D investment, particularly in fiber. Adding to the surge is that more operators are moving directly from 270 MHz plant into the 400 MHz range, bypassing the 330 MHz range entirely.

The continuing surge of cable construction projects, which began early last year, has maintained a torrid pace over the past 18 months and shows no sign of slowing into 1989. Some contractors, construction companies and distributors are projecting even more activity in 1989 than this year. But because many of these same people admittedly overreacted to the last construction flurry in the late '70s and early '80s, a mood of cautious optimism now pervades the cable construction industry.

Ironically, many of the same frustrations which hampered them in the past are again being felt by many in the construction industry—a lack of qualified personnel from splicers to general foremen, a lengthening of lead times and near critical shortages of raw materials. These frustrations, however, have not dampened the enthusiasm of most in the construction industry, and *CableVision* predicts the strong construction trend will continue well into 1989.



Low-density builds

An example is American Television & Communications. "Our mileage will be significantly increased in 1989 for rebuilds (about 1,280 miles) and newbuilds (about 1,225 miles) and though we are on schedule for our rebuilds in '88 (715 miles), we will have plenty of work ahead of us in '89, which looks tc be an even bigger year than '88," says Barb Lukens, director of construction. According to Lukens, ATC, the second largest MSO in the country with 3.8 million subscribers, will have 25 percent rebuilds and 75 percent upgrades in '88 and '89, with a growing number of those in rural areas.

"We have found you can build systems in low-density areas profitably, where each sub is valued at less than $2,000," Lukens says. "Historically, the rule of thumb has been 50 homes per mile. Now it's more like 20-30 per mile and still profitable at 70-80 percent penetration. We're seeing lots of rebuilds in those areas because you already have management in place, customer service established, and the fixed costs have been spread out," she adds. Lukens also suggests that the focus for ATC in the next few years will be on these rural rebuilds and newbuilds and expects lots of activity there in the next two-to-three years. ATC expects to complete 915 miles of newbuilds, 60 miles of fiber and 760 miles of upgrades in 1988. In 1989, those numbers are expected to increase to 125 miles of fiber and 2,800 miles of upgrades.

At United Cable, Pat McDonough, corporate chief engineer, says his MSO will complete about 1,800 miles in '88 with a like amount to be completed in '89.

With the resurrection of rebuilds, Tom Polis, construction executive vice president for RTK Corp., has established a four- to five-year commitment for his company's rebuild and retrofit business. He believes the industry will see continued strong growth patterns in this area. "The next five years should continue at the present pace," Polis says. Currently, 60 percent of his

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Boom, *from page 38*

rebuilds are national and, in many cases, the partial rebuilds and retrofits wind up being total rebuilds.

According to Gordon Halverson, vice president, CATV for Anixter Communications, the most dramatic change in the past two years has been the increased activity with directional taps and the increased value of rural subscribers, with incremental sharp increases in underground enclosures, line extenders and strand hardware, and this trend should continue "as subscriber values remain in the $2,000-plus range per sub," Halverson projects.

'The next five years should continue at the present pace.'

—Tom Polis, constuction executive vice president, RTK Corp.

Most industry executives attribute the continuing surge in rebuilds to three reasons: 1) The threat of overbuilds; 2) CLI compliance; and 3) franchise renewals and increased services.

It is perhaps the third factor which is really pushing along the construction boom. Many of the long-postponed upgrade and rebuild projects identified by *CableVision* back in February are

See **Boom**, *page 45*

Construction Spending
1983-1987
($ in thousands)

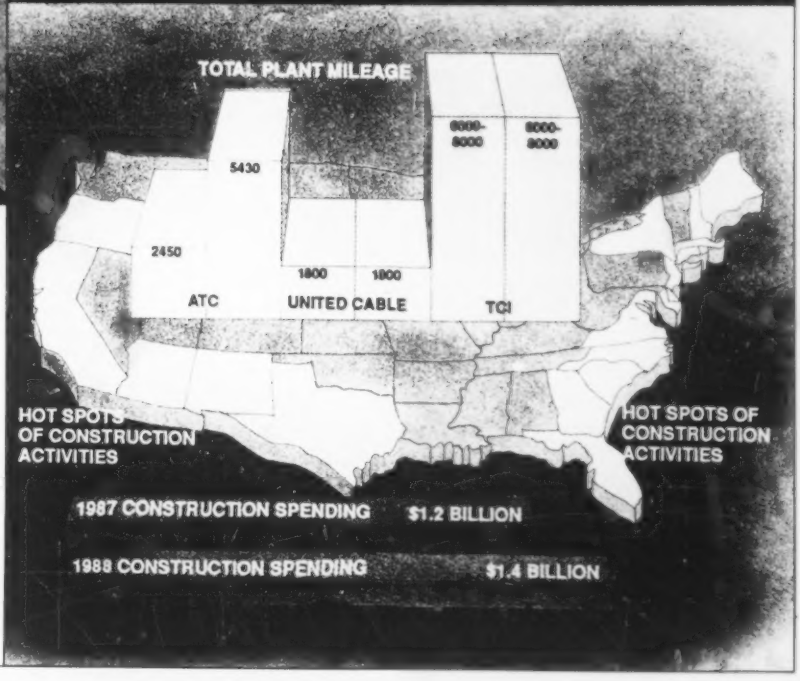
	1983	1984	1985	1986	1987
Estimated new plant costs	$379,500	$922,423	$660,874	$413,511	$371,874
Estimated replacement plant costs	108,600	216,881	252,058	245,904	291,548
Estimated hardware costs	N.A.	N.A.	393,116	326,100	589,724
Total	**$1,488,100**	**$1,139,374**	**$1,306,048**	**$985,515**	**$1,253,146**

Figures were derived from a survey sampling of MSOs and manufacturers, as reprinted in *CableVision*.

Plant Construction Miles
1983-1998

Category	1983	1984	1985	1986	1987
New Plant	7,015	11,353	10,423	9,576	7,412
Underground Aerial	61,960	28,601	26,255	17,556	14,463
Total	**68,975**	**39,954**	**36,678**	**27,132**	**21,875**
Replacement plant	4,125	7,246	7,384	7,674	11,418
Underground Aerial	23,025	21,512	20,673	21,252	31,462
Total	**27,150**	**28,758**	**28,057**	**28,926**	**42,880**

Figures were derived from a survey sampling of MSOs and manufacturers, as reprinted in *CableVision*.



Boom, *from page 40*

now on the drawing table. The last cable construction surge in the late '70s and early '80s resulted in many systems that were built simply to be sold, and those now are requiring upgrades and rebuilds, a pattern which should hold for the next four or five years.

At Tele-Communications Inc., Dave Willis, director of engineering, reports that the nation's largest MSO, with about 5.2 million subscribers, will complete about 90 percent of its construction rebuilds and upgrades in '88. But according to Willis, "we always schedule more than we can do, so we actually complete (less than) what we had scheduled." Willis, however, sees a slight slowdown in construction for TCI in 1989. "We'll try and do 6,000-8,000 miles next year," he says.

A growing issue in the cable construction business is the widening gap between proponents of addressable converters and those for non-addressable systems. And although most manufacturers are reporting a big sales year for addressable converters, management at more systems are showing skepticism towards all-addressable, and are advocating hybrid systems.

A case in point is Mile Hi Cablevision in Denver, which in 1983 unveiled a fully addressable system. It is now eight percent addressable and 92 percent non-addressable. "The problem wasn't with the converters, it was the unfriendliness we found addressables had with consumers," explains John Dawson, vice president of engineering there. "It totally alienated cable-ready features."

"The advantages of addressable systems are reaped by the operator, not the consumer," Dawson says. "An addressable system allowed us to do some things like up- and down-grade

See **Boom**, *page 47*

'We are asked by every customer to work with them in fiber optics. This is by far the most dramatic turn of events in the industry.'

—Gordon Halverson, vice president, CATV, Anixter Communications

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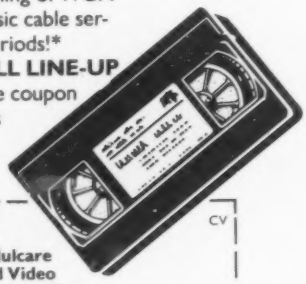

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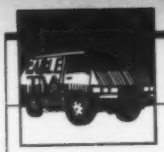


Boom, *from page 45*

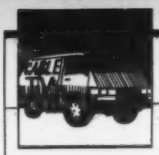
more easily and reduce service calls, so there are operator advantages to it, but the interface situation was complex, and had to change. I think it brought to light how difficult fully addressable systems can be, but we were an extreme case," Dawson concludes. He points out that in 1983, 22 percent of his consumers had VCRs, while 50 percent now do.

The Mile Hi case, however, has not slowed sales of addressable converters. "They are really selling," says Mike Hiyashi, marketing manager at Pioneer. "Our addressable sales will be about four million units this year, about the same as last year," he reports. Pay-per-view is the big reason for the strong showing of addressables, according to Hiyashi, with impulse not having the effect as was first thought.

Addressables also have been a big mover at Jerrold, according to Ed Ebenbach, vice president of marketing, subscriber systems division, while "plain Jane" converter sales are soft thus far in '88. "Our lead times have varied from 30-60 days. Our problem has been integrated equipment, but we have a healthy backlog and see a healthy remaining '88 and '89. Addressables have been very kind to us this year," he says.

For Scientific-Atlanta, however, addressability is not a hot item. "We'd like to think addressability is hot, but the momentum for it just isn't there," says Steve Necessary, subscriber product marketing manager. "People are still interested in addressables because of safety from theft and the appeal of PPV, but expectations on PPV have been tempered by impulse, and true impulse is not exploding. More and more systems are pursuing ANI, which is gaining momentum as an ordering method," Necessary says.

The mix of addressable and non-addressable, according to Necessary, depends entirely on each individual system, which must decide for itself which of the two to incorporate. "A pat answer is not real world," Necessary says. "It's a difficult decision, but I think, long-term, addressability will win out because of PPV and its predicted behavioral value learned through video rentals," he concludes. Scientific-Atlanta, according to Necessary, sees steady growth in the construction area and a 10 percent increase in addressable converter sales in '88.



Still in the starting blocks, but ready to explode onto the construction scene, is fiber. "We are asked by every customer to work with them in fiber optics," Halverson reports. "From short trunk usage to larger fiber usage, this is by far the most dramatic turn of events in the industry. All cable operators want to talk about is fiber," he says. Although Anixter is among the largest supplier of optical cable fiber continually is mentioned in construction conversations. ATC and Anixter are testing a huge fiber backbone system in Florida (see related story, page 16).

Most industry sources agree that a fiber evolution is taking place, and some say 1991 will be the year fiber comes into its own. "Operators see the need for better signals in the future, particularly since the telcos are already using fiber in their business," Halverson concludes.

Within the construction industry, however, an individual company wouldn't be affected by fiber, according to Polis. "Whatever role fiber is to play in cable, no one has stopped its activity. In fact, exploration into fiber has accelerated," he says. "I think what we'll see in fiber is a hybrid system in the near future, with fiber being used to a certain point, then coaxial and broadband into the home. But long-term we must consider the advantages of fiber directly into the home—both economically and technically. It won't, however, affect us as a construction company," Polis suggests.

Reports of MSOs, manufacturers and distributors waiting on fiber to make its mark are not true, according to Dave Fellows, director of distributor marketing at Scientific-Atlanta. "People certainly have an eye cast towards fiber, but I don't see them waiting around for it. Most realize fiber is a backbone concept and will take time," he says. For the present, Fellows reports that Scientific-Atlanta's '88 distribution numbers are up 30 percent over '87, with the largest increase coming in the past six months. Fellows expects a slight decline for the remainder of '88 and a five to 10 percent overall increase in sales during the next 12 months. And if fiber "lives up to its promise," Fellows says, its cost-effectiveness will spur more rebuilds that will include a greater need for coaxial cable.

Lead-time headaches

The industry's growing appetite for coaxial cable has many in the construction business frustrated, due to longer lead times and in some cases, product scarcity. "The lead time for drop cable has been extended to nearly six weeks. That's unheard of when you consider that a subscriber hook-up depends on it," said Chris Sophinos, CEO/vice president, Midwest CATV. "Overall, the lead times have increased with the higher capacity materials of 450-550 MHz. We feel as though we're in the horsepower race of a few years ago. People are adding channels so dramatically, while traps are requiring much more lead time," Sophinos concludes.

At Magnavox, whose primary production line is amplifiers, Keith Weil, director of marketing, says lead times usually are four-to-six weeks for passive products such as taps, splitters and couplers, while Dick Taylor, director of advertising at C-Cor, is living with 45-to 60-day lead times.

TCI's most pressing construction problem, according to Willis, has been long lead times for aluminum and oil-based products—up to 10 weeks, compared with lead times of four weeks just a year ago. The cry vendors now are hearing from MSOs and cable construction firms is "give us realistic lead times," and allow more time to prepare and budget.

Scientific-Atlanta's solution to the problem, Fellows says, is a team approach within the factory. "We have found that production is quicker through the use of teams. Now, one team works on one product—start to finish—in one operation. It has improved lead times and increased the quality and reliability of the product," he says. Through this team approach, Fellows reports, lead times will be reduced "significantly," to under five weeks.

Yet lead times remain high, according to several industry sources. Hiyashi at Pioneer is reporting 30-90-day lead times for non-addressable converters and the same, or longer, for addressables. Longer lead times for ATC have caused big problems in certain locations which are "causing severe slowdowns," Lukens says. "We have begun to place our orders well in advance to insure delivery, and are going after vendors for delivery."

But some report that lead times seem to have shrunk, such as Geoff Roman, vice president of marketing at Jerrold's distribution systems division. He attributes the reduction to a shift in the market to quadra power and power doubling. "Everyone out there wants the best possible pictures and is demanding higher levels of carrier noise, from 45-46 dB. Not long ago it was 42-43 dB," Roman says. "As a result, most of our lead times are now about 90 days, with some products as high as 120 days. But our lead times are finally starting to come down. By October, our lead times should be about 60 days, and since the hi-tech demand is running so far over forecast, and its growth has been so dramatic, we are adding product capacity and more automation."

For others, a short supply of most products has prevailed all year. "We don't have much of anything. The factories just can't keep up with the demand, particularly cable strand," says Mark Engler, president of Cable Television Supply Co. Most strand is imported from overseas. "Stainless steel price increases are running rampant, with coaxial cable back orders being stretched, and lead times are all

'Our problem has been integrated equipment, but we have a healthy backlog and see a healthy remaining '88 and '89.'

—Ed Ebenbach, Jerrold vice president of marketing, subscriber systems division

'Hard time': seeing the boom from the ditch

As the cable construction business continues its frustrating search for qualified personnel, the reasons why there aren't more field people to lay the cable becomes painfully apparent.

Low wages, instability in the workplace and a gypsy lifestyle make this career a short-lived one for most of the young men who enter it. In many cases, the stay lasts just a few long, backbreaking days.

"Most of the men who hire on will leave after being in 'the ditch' for two or three days," says Mary Lou Bouman, president of Cable Conduit, a cable construction contractor in Colorado. Being in 'the ditch' literally means digging ditches with a pick and shovel for 12 hours a day at wages less than $6 per hour, in many cases. This is called "hard time," and a tough way of paying dues.

Jeff Ellis, an eight-year veteran, has been in and out of the ditch many times. At 26, he has a wife and two children in Ogden, Utah, whom he sees "sometimes" as his job takes him from site to site, living in makeshift quarters and hotels. "I'll go back to Ogden after this job in about two weeks," Ellis says. "Then go out again when a job opens out of our office in Salt Lake." He will stay in the cable construction business "until something else comes along."

Most of the men in this business—there reportedly are no women in the field—have little education and are tremendously loyal, according to Bouman. "These people aren't transients. There is a definite cult behavior with them, and most want to stay close to home and work, Indians and Chicanos especially. Most of them are biding their time until a better offer comes along from, say, the government, perhaps at a military base," Bouman notes.

Wages range from $4.35 an hour at entry level, which means "hard time" for most, to $12-$14 an hour for general managers. Foremen will make between $6.50 and $8 per hour. At most construction jobs housing is provided, meal money is not. Most of the men drive or ride in company trucks to and from job sites.

John McKeage is a 29-year-old general manager for Cable Conduit, and a seven-year veteran currently on-site at a cable construction project in Steamboat Springs, Colo. "Most of the men in this job are real individuals. They have to have an attitude about cable television; they have to like it. That's what makes some of them so good. Our average turnover, however, is about 200 a year. After a few days with a pick and shovel in the ditch, most will leave. It's very tough work," McKeage says.

And tough work finding good help as well, according to Bouman. "There just isn't much good help," she adds.

With 90 percent of the men under 30, the attraction for this career is travel for the single men, and outdoor work for men with families who can work near their homes. "The tendency among the help is to work for you when you are in their vicinity," Bouman says. But for others, such as John McKeage and Jeff Ellis, it's on the road again to another cable site, another new town, and in some cases, the ditch.

—Craig Kuhl

Boom, *from page 48*

over the place—from two to 12 weeks. It makes our job extremely difficult," Engler reports.

United's McDonough agrees. " Cable lead time is really being stretched and manufacturers are playing it close to the vest to guard their profits. Most lead times now are about 90 days; it's getting terrible, but we have to live with it."

The current "construction frenzy," according to Sophinos, has the industry in a "tizzy," citing the case of Trilogy Cable's MC2 product. "You can't get it," he says flatly. "Strand material is in dire demand and you just can't get it. In many areas, it's holding up crews, some as far back as November."

The solution, according to most industry sources, is simply to even out demand and to increase manufacturers' capacity to produce.

Scarcity of crews

The inability to produce in another area has caused what could be the most alarming problem in the construction industry—qualified construction personnel. This malady dates back several years before the late '70s boom, when qualified construction people were readily available. But no more. "They are getting harder to find," states Polis. Splicers, he says, are very scarce, along with general foremen, crew foremen, field engineers and technicians. And, according to Polis, because the number of retrofits has increased, taps and passes need changing, so five or six splicers are needed instead of just one, along with a zero-defect splicer.

For years, these construction "gypsies" would move from project to project. Now, they prefer to stay in one place, raise a family and enjoy a more stable lifestyle. "It's the insecurity and travel that causes problems," Polis said. "Working for an operator is more stable."

Most construction companies, including RTK, work from a core group of supervisors, foremen and other personnel. In slower construction months, the company will keep them employed in other capacities. "It's tough for these guys. They may work for eight months and not know when they'll work again, or where. Eventually, they will recognize the shortage of manpower and want more money from cable industry projects," Polis speculates. At present turnover rates, just five out of every 20 entry level people remain with the company.

The need for qualified personnel runs across the board within the cable

See **Boom**, *page 53*

Boom, *from page 50*

construction industry. The clustering of sub rebuilds, retrofits and upgrades has helped, but most MSOs and construction companies consider this a major problem still. "They (qualified personnel) are really in short supply," according to Lukens. "Some projects have not even started due to the lack of qualified people. We contact schools such as Wadena Vocational School in Minnesota, and Hinkles and McCoy in Pennsylvania and work with them to train people, but the quality just isn't there," she says.

ATC's approach is to train the workers as linemen, then as splicers, technicians and so on, until they have mastered each discipline. "It's a vertical integration approach," Lukens says. "When the person reaches the technician level, they can do just about anything."

For now, however, Lukens must rely on apprentice linemen, and echoes the industry's concern about the lack of qualified construction personnel and their growing unwillingness to move from one construction site to another.

Roman of Jerrold concurs, but is optimistic. "Many qualified people in the cable construction industry left the business before 1987. Now, there's just not enough people to do the job. But more are beginning to come back, which should help lead times and product quality," he says, along with more qualified people long-term at construction "hot spots."

These "hot spots" of construction activity are directly related to population growth, according to most industry sources, with the Northeast, Florida, the Southwest and California leading the way in construction rebuilds, retrofits and newbuilds, with strong construction taking place nationwide. And most expect that construction trend to continue into 1989.

The East Coast also has become a hotbed of cable construction, according to industry sources. "The entire East Coast is hot. There is substantial bid activity there and in Florida, with rebuilds of 1,200 and 1,700 miles; Cape Cod with 900 miles, the Westchester, N.Y., system, and the Warner systems in New York, New Jersey and Pennsylvania with up to 2,500 miles," a source notes.

The West Coast is not far behind. Contra Costa County, Santa Barbara and San Diego, Calif., and Coos Bay, Ore., are all up for bid, with a large slate of older system rebuilds scheduled.

At bottom, most construction industry officials are confident the strong construction activity which began in 1987 will continue through 1989, a conclusion supported by data gathered by *CableVision*. This includes more rebuilds, particularly in rural areas, and upgrades.

And as cable systems migrate through the 330 MHz range, the industry can expect a greater demand for 450-550 MHz and feed forwarding as the search for greater bandwidth becomes a frenzy in itself.

There are other indications that converter interface and consumer friendliness will be paramount for the industry. As for fiber, it remains the most dramatic technological challenge in cable, which should find a solution in 1991.

In the meantime, the cable construction industry will perk along with overall construction increases of 10 percent to 20 percent into late 1989. ■

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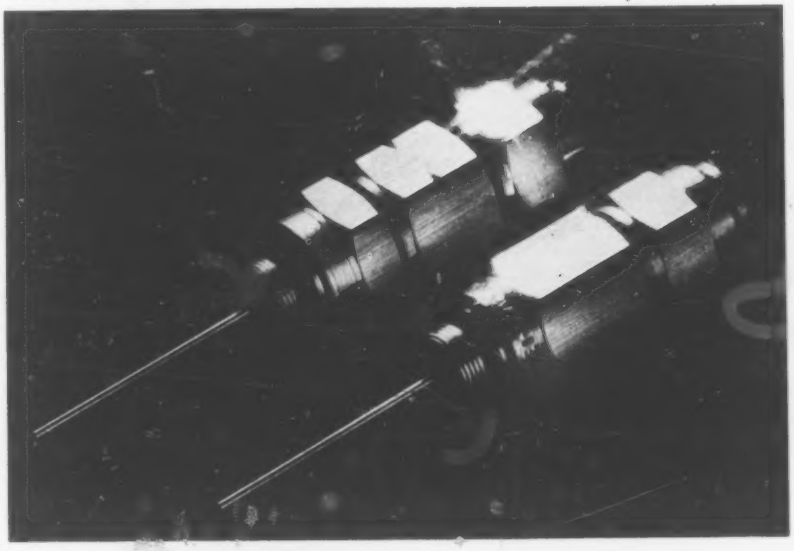

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manufacturers, workers and consumers will be able to reap the visual as well as economic benefits from it.

"For us not to be on the cutting edge would be an economic disaster. We cannot afford to be on the trailing edge. We'd really be missing the boat—again," said Rep. Don Ritter, R-Pa., a member of the House telecommunications subcommittee who is a scientist.

But there is something else coloring HDTV's debut in this country that is not even an issue in other countries—which some, like Rep. Jim Cooper, D-Tenn., argue should not be an issue here. Markey and the FCC want to make sure that broadcasters will be able to offer the technology when it becomes available to ensure the health of the free, over-the-air industry.

Cooper contends that such concern could unnecessarily delay consumer access to HDTV. But the Federal Communications Commission tentatively has concluded that HDTV is in the public interest and that spectrum should be saved to ensure its provision over the air (*CV* 9/12/88 p. 16).

In its preliminary guidelines for HDTV development the commission said that advanced television systems should be compatible with existing TV sets and that any signal must be crammed into the current television bands, which could minimize clarity of the images.

'For us not to be on the cutting edge would be an economic disaster. We cannot afford to be on the trailing edge. We'd really be missing the boat—again.'

—Rep. Don Ritter, R-Pa.

Unlike broadcasters, cable systems are not bound by potentially crippling regulatory and technical constraints.

"I wouldn't like to be a broadcaster during this debate. They have to fix regulatory issues and suffer interference. All cable has to do is nail dollar bills up on telephone poles. It's not a big deal," NCTA's Bailey said.

Still, Bailey predicted that the cable industry would work with broadcasters to overcome difficulties, noting that 30 percent to 40 percent of cable programs are broadcast retransmissions.

To gear up for HDTV's arrival, Bailey said cable operators now should be asking themselves if they want to spend the money to increase their bandwidth to eventually offer HDTV programs.

Bob Zitter, vice president of network operations at Home Box Office, said that whether HDTV is merely a creation of "a bunch of engineers or something consumers want," cable must be poised to offer it to reduce the risk of falling behind the video market. "The cable industry must not compromise quality...We are not competing with broadcasting, but with videos," he said during the recent Eastern Show. "Consumers won't tolerate less quality. They want the same quality in cable as they can get at video shops." ■

FCC Must-Carry Survey

Stations that were dropped or denied carriage (As reported by 912 television stations)			
Network Affiliate	452	87	269
Commercial Independent	186	83	710
Non-commercial ETV (PBS)	237	80	345
Other (relig., specialty	37	30	209
Grand Total	**912**	**280**	**1,533**

Stations that were dropped or denied carriage (As reported by 4,303 cable systems)			
Network Affiliate	380	276	595
Commercial Independent	316	184	485
Non-commercial ETV (PBS)	347	153	463
Other (relig., specialty	195	91	277
Grand Total	**1,238**	**704**	**1,820**

Suppliers swim in black ink by core refocusing

By Virginia Munger Kahn

After more than three years of losses and restructuring, the cable industry's primary equipment suppliers, General Instrument and Scientific-Atlanta, finally have shared in the resurgent construction and rebuild businesses. Both companies reported record sales in their 1988 fiscal years, with S-A also reporting record profits and G.I. reporting operating profits 250 percent ahead of the prior year. G.I.'s fiscal year ends in February and S-A has a fiscal year ending in June.

From the depths of the mid-1980s depression in cable equipment supply until today, the two companies have spun off a dozen businesses and product lines ranging from semiconductors to stereo cabinets. Rather than decreasing their exposure to the cable business, Scientific-Atlanta and General Instrument today are more focused on the cable television business and its related industries than ever before.

At S-A, the communications segment has grown from 65 percent of total revenues three years ago to 72 percent today. At General Instrument, the broadband segment accounted for 46 percent of the company's revenues in 1985, while today that figure has leaped to 66 percent.

The increased focus on cable has paid off. While broadband accounts for 66 percent of G.I.'s revenues, the business accounts for 87 percent of its profits. At Scientific-Atlanta, the communications division, which includes both cable and satellite, is responsible for bringing in 85 percent of the company's operating profits on 72 percent of its revenues.

The big question now is can the two companies keep up the strong performances. Most industry observers agree that the 25 percent growth rate in equipment revenues experienced in 1987 by major suppliers will not be repeated this year, and that next year, growth is expected to fall off even more.

Good news/bad news

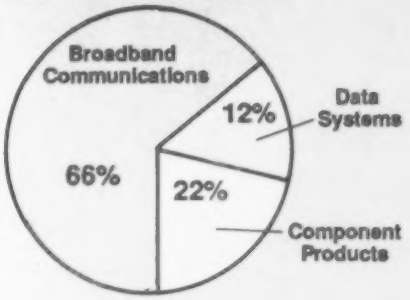
What made 1987 (or FY '88) so good was how bad 1986 was. According to statistics compiled by Paul Kagan Associates, total construction miles fell from 90,000 miles in 1982 to 49,000 miles in 1986. In 1986, S-A reported a loss for the first time in 14 years, while G.I. racked up losses of $66 million and $80 million in its fiscal years ending Feb. 28, 1986, and 1987.

The results were even more devastating for those companies not as well entrenched as the two market leaders. Regency Electronics got out of the business, Texscan declared bankruptcy, Oak Communications faced massive

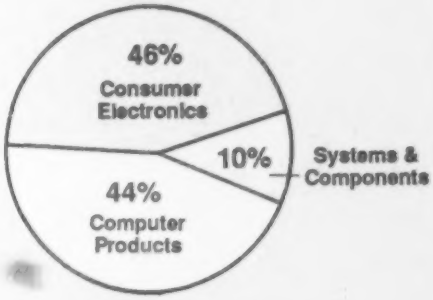
See **Vendors**, *page 60*

Lines of Business Information

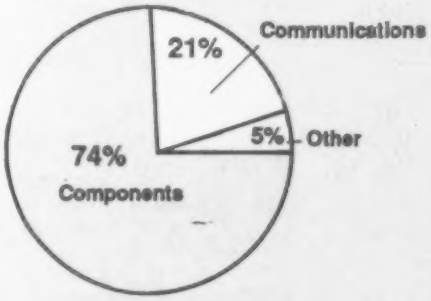
General Instrument



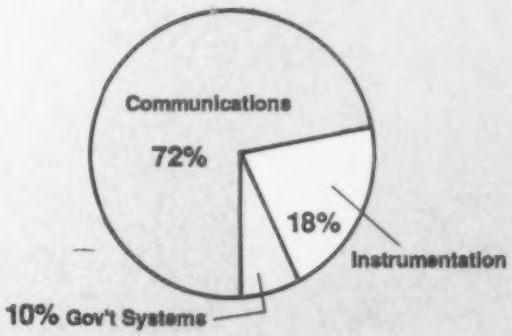
Zenith



Oak Industries



Scientific Atlanta



Vendors, *from page 58*

financial problems, and M/A-Com ended up selling its cable and satellite divisions to G.I. While Texscan is on the road to recovery and Oak Communications still produces converters, the structure of the cable equipment business will never be the same.

As Robert Anastasi, research analyst at Robinson Humphrey Co. in Atlanta, notes, that's good news for S-A and G.I. With a decrease in competition and those two companies claiming the "lion's share" of the market now, Anastasi expresses confidence in their ability to continue to perform well in the future. "They can have good profit growth even in a modest revenue growth environment," he says.

Other analysts echo this assessment, noting that by controlling such a large share of the market, G.I. and S-A will be able to increase margins even if revenues do not rise as fast. "Margins will rise as they expand their domination of the market," says Eric Buck, research vice president at Donaldson Lufkin & Jenrette.

Analysts disagree slightly on the anticipated rate of growth in revenues for these two companies over the next year or two. Anastasi is on the low end at zero-to-five percent in 1989 and 10-to-15 percent this year, while G.I. Vice President for Investor Relations Edward Kearney reflects that company's and some analysts' projections of eight-to-12 percent growth this year and next.

> '(Suppliers) can have good profit growth even in a modest revenue growth environment.'
>
> —Robert Anastasi,
> research analyst at Robinson Humphrey Co., Atlanta

Buck describes the business environment as a return to trend lines established over the previous 10 years. While the 1975-to-1983 period represents an abnormally high ramp-up in construction expenditures, the 1984-to-1986 period represents a below-normal period of market activity. The level of business established in 1987 and 1988 will be closer to what can be expected over the next three to four years, he and others indicate.

The key to revenue growth for both G.I. and S-A will be capital spending by the MSOs. Here again there are a range of opinions, with Daniel Zinsser, research analyst at Goldman Sachs, anticipating flat spending this year and a significant decline of 15 percent next year. Glenn Pafumi, telecommunications analyst at Eberstadt Fleming, takes a more optimistic view of eight to nine percent growth this year and zero-to-five percent growth in 1989. Both analysts base their assessments on interviews with executives at the leading MSOs.

"It appears that 1989 will be a transitional year," notes Pafumi. The real unknown is what will happen in 1990. Capital spending that year could be anywhere from five-to-15 percent, he says. It will all depend on how seriously cable operators take the threat of competition from the telephone companies and how wedded they are to rolling out addressibility for pay-per-view and other interactive services.

Zinsser bases his bearish assessment of MSO capital spending plans on operator uncertainty about technological obsolescence in the face of fiber optics availability and the drive for high-definition television. "We believe many cable operators will begin to trim their plans for rebuilding systems" or lengthen the time frame for those rebuilds as they become increasingly concerned about the incompatibility of existing technologies with those of the future, Zinsser writes in a recent report. While he admits that fear of competition from the telephone companies and overbuilders is what has driven cable companies to spend more on rebuilds and extensions this year, he indicates that concern is outweighed by those surrounding the new technologies.

Pafumi, however, identifies just those fears about impending competition as a major spur to the implementation of fiber optic technologies in cable systems. "Running fiber to the home probably is more expensive than Star Wars," he says, alluding to the Reagan

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Administration's proposal for an anti-missile defense system, "but cable operators are scared to death of the telephone companies." As a result, they will try to move fiber as close to the home as possible in an effort to stave off that competitive threat by providing additional services and better quality signals, he says.

G.I. makes a move

If that occurs, General Instrument will be in a good position to benefit as a result of its new joint venture with Alcatel, the Netherlands-based telecommunications equipment manufacturer. Last month the company announced it would spin off a portion of its Comm/Scope cable division, acquired in 1986 from M/A-Com, to Alcatel and Comm/Scope's management. G.I. will retain a 60 percent interest in the new company.

"What this does for us is it gets us into fiber immediately," says G.I.'s Kearney, noting that Alcatel already manufactures fiber optic cable. In addition, General Instrument will acquire the technology for manufacturing fiber optic cable once the demand is there from the U.S. cable industry.

The move illustrates the continuing drive by G.I. to improve its position in the cable industry by expanding its line of products. Already, G.I. is estimated to control approximately 50-to-55 percent of the cable equipment market.

Not surprisingly, the company has benefited handsomely from the resurgence in the cable construction industry. Not only did it report record revenues last year, but it projects that this year will be just as strong. Revenue is expected to exceed $1.3 billion in the fiscal year ending next February, compared to $1.1 billion in 1988, while analysts predict that earnings also will top last year's figure of $66 million.

The company has won a significant share of the market for urban rebuilds and newbuilds, including portions of the New York City market, the Montgomery County cable system in Maryland, portions of the Philadelphia newbuild, and United Cable rebuilds in Tulsa, Denver and Hartford. That level of activity may explain why the company is more bullish about next year than analysts are about the construction business in general.

Caution from S-A

Scientific-Atlanta has been airing more cautionary assessments about the cable market. The company reported that its fourth quarter (the three months ended June 30, 1988) was down in the cable division and that the company faces a number of "uncertainties" in the cable business and defense sector as well as in the economy as a whole.

Analysts attribute S-A's statements to a more wary approach to the business and to the unusual comparisons between early calendar 1988 and the same period in 1987. Last year saw a surge in orders for "plain Jane" converters as operators melted down tiers in response to deregulation, and S-A benefited from that surge.

This year that demand has leveled off considerably, while demand for addressable converters is up. As a reflection of that demand, General Instrument reported a 12 percent increase in revenues in its first quarter of this year, while S-A, which has had trouble getting its new addressable converter to market, reported a down fourth quarter. Addressable converters

See **Vendors**, *page 64*

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Vendors, *from page 60*

are a larger part of G.I.'s business than basic converters.

Goldman's Zinsser contends that it is operator hesitation on capital commitments that is showing up in G.I.'s and S-A's results. He notes not only that S-A reported a weak fourth quarter in cable and predicts that the weakness will continue, but also that backorders in G.I.'s broadband division are down substantially from a year ago. According to his figures, as of February 1988, G.I. had an order backlog of $174.5 million compared to $243.5 million in February 1987 in the broadband division.

DLJ's Buck counters that the February 1987 figures are distorted by huge backorders for G.I.'s Videocipher system that only began to be delivered in substantial numbers later in 1987. That backlog has been whittled down and now reflects a more normalized flow, he indicates.

Looking at portfolios

Despite their confidence in their core business—cable television equipment supply—both S-A and G.I. still maintain a portfolio of diversified businesses. In each, there is a dog or two, but there are also bright spots.

For G.I., the Videocipher division has been one of the best acquisitions made in recent years. The company bought that and Comm/Scope from M/A-Com in September 1986 for $220 million. "We figured the two businesses would contribute $250 million in revenue in FY '88," says Kearney, but instead they contributed more than $300 million in revenue last year.

What makes Videocipher such a gem is that it has become the standard for satellite delivery of scrambled entertainment programming. "The number of programming services that selected Videocipher is much higher than we anticipated," says Kearney. By combining that technology with converters, the company also has been able to capture the consumer end of that market.

What G.I. has accomplished in the entertainment business, Scientific-Atlanta has been able to do in the business environment. Its Eschelon system has effectively become the standard for satellite business communications, with such customers as AT&T, British Telecom and Federal Express. In an effort to bolster that business, S-A acquired Advanced Communications Engineering in February 1988, a company in which it had invested previously, which adds interactive capability to S-A's private network operations. While the business accounts for only about 10 percent of the company's revenues, it represents a potential good growth sector.

S-A's ventures into other lines of business have been mixed, although it is expected to report orders in its military business sector up 80 percent this year as opposed to last year. In 1987 these other lines of business accounted for 27 percent of revenues.

In the defense sector, the company has been criticized in past years for going after shorter-term contracts and for poor management. Last year, however, S-A landed a major contract with Newport News Shipbuilding and Drydock to develop a noise and vibration monitoring system for the Navy in what it says could be the first step in a new market "with significant long-term potential." In addition, the company has hired a new executive to head that division.

While revenue growth has been only about three percent at S-A, the company's profit margins have improved substantially. "S-A has done a super job focusing on margins," says Bob Anastasi, summing up the company's recent financial performance. This past year margins on net income were up to 5.8 percent compared to 4.9 percent the year before.

The company's strong financial performance is bolstered by a strong balance sheet. Cash reserves were up to $53 million in the period ended June 1988 compared to $22 million in cash last year. Meanwhile, debt has been reduced to just $3 million from $3.2 million the year before.

That strong balance sheet and the strong cash flows that it represents has made the company a target of takeover and leveraged buyout rumors this summer. Analysts attribute the rumors to investors who bought the stock when it was high; however, they concede the company has all the qualifications for a hostile takeover or leveraged buyout by management.

For its part management has stated emphatically that it is not interested in an LBO, and in August the company strengthened anti-takeover provisions in the company's bylaws to thwart potential raiders.

Some analysts, such as Anastasi, say they would like to see the company use some of that cash to make a strategic acquisition or two to further insulate it from cycles in its two primary areas of business—cable equipment and instrumentation—and to bolster its growth prospects.

Pafumi counters that the cable business itself may prove to be a strong vehicle for growth in the early 1990s, and for now he'd like to see the company pay its stockholders more dividends.

General Instrument also has had mixed results in its lines of business outside of cable. Right now, the biggest dog in the company's portfolio is its lottery business, which comprises the bulk of its data systems sector. That sector, which accounts for 12 percent of the company's revenues, lost more than $21 million last year. The problem, according to Jay Samstag, vice president at Duff & Phelps, is that it essentially is "a betting game." Contracts are awarded in bidding contests and G.I. does not control a significant share of the market as it does in cable. The company attributed most of the losses in this sector last year to its participation in the Missouri lottery system, a system that has never met the levels of wagering originally antici-

Vendors' Financial Results
(in thousands)

	Revenue	Net Income
General Instrument		
1988	$1,155,460	$66,220
1987	787,862	(80,377)
1986	612,400	(66,543)
Oak Communications		
1987	$182,210	$8,226
1986	151,745	60,243
1985	153,116	(37,576)
Scientific-Atlanta		
1988	$508,587	$29,670
1987	495,346	24,260
1986	469,124	(9,212)
Zenith		
1987	$2,362,700	(19,100)
1986	1,892,100	(10,000)
1985	1,623,700	(7,700)

( )-Net loss

pated.

More successful has been G.I.'s component products division and the military contracts sector of the data systems division. The company has exited most of the semiconductor business, leaving the power semiconductor market as its primary player in the component products division.

As far as that business is concerned, Samstag characterizes the company's position as "fairly decent... in a fairly mature business."

While analysts say that in general they are not enthusiastic about either G.I. or S-A increasing their exposure to the volatile defense industry, they note that G.I.'s participation is fairly limited. G.I. produces radar warning, surveillance and targeting systems for both the U.S military and international markets. Last year that division generated $80 million in revenues.

The company recently increased its exposure to the defense business by completing the acquisition of the Dalmo Victor Division from Singer for $175 million. A few days later the company announced that Dalmo Victor had been awarded a $199 million contract from the Air Force for early warning radar systems.

According to Kearney, G.I. long has had its eye on Dalmo Victor and in fact bid for the company when Textron put it up for sale three years ago. G.I. lost out to Singer, but now that the company is being broken up as a result of its acquisition by corporate raider Paul Bilzerian, G.I. had the opportunity to bid on the division again and won this time.

Analysts note that the move is a good one for G.I. in that Dalmo Victor's technology was essentially the same as that produced by G.I. but sold to a different market. Historically, Dalmo Victor's customer base has been the Air Force and the Army, while G.I. has sold its radar systems primarily to the Navy, notes DLJ's Buck. The joining of the two businesses will not only cover that market, but also will make G.I. a better competitor in the international field, he says.

Consolidation ripples

Despite their forays into other fields, both G.I. and S-A remain heavily dependent on the cable equipment business, a business that has undergone substantial restructuring in recent years and is still undergoing change. Just last month, Cable TV Industries, a major distributor of cable products, said that it would be acquired by Anixter Brothers for approximately $15.7 million.

Sometime later this year Zenith likely will sell off its consumer electronics business. Whether the cable TV sector will be a part of that sale is not known at this time, although the business has been doing well for the company lately, according to Bill Relyea, vice president at Eberstadt Fleming. Also, it would be hard to imagine either S-A or G.I. buying Zenith's cable division considering their already dominant positions in the marketplace, say analysts.

As consolidation continues to ripple through the equipment supply business, S-A and G.I. have strengthened their positions so that today they constitute probably 75 percent of the market. As Bob Anastasi notes, that's good news for these two companies. Even if the market ceases to expand as rapidly as it has in the last year, Scientific-Atlanta and General Instrument can be expected to continue to benefit from what growth there is and to weather any flatness or downturns that might be around the corner. ■

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American Movie Classics	12
BET	20
Bravo	4
Cable Radio Network	4
Cinemax (West)	23
ESPN (Blackout)	7
The Fashion Channel	1
Financial News Network	11
Genesis Storytime	3
HBO (East)	13
Home Shopping Network	22
The Learning Channel	2
Lifetime	17
QVC Network	8
Request TV	4,19
Shop Television Network	5
Tempo Sound	6
Tempo Television	6
The Travel Channel	16
Trinity Broadcasting Network	3
Turner Network Television	18
TV Decisions	24
USA Network (West)	10

Satcom IV (GE Americom)

	Transponder
Alternate View Network	10
American Movie Classics	10
Biznet	6
Bravo	2
Family Guide Network	24
Family Network	7
The Fashion Channel	14
Gospel Music Network	3
Hit Video USA	18
Home Shopping Network 2	1
Home Sports Entertainment	11
Home Team Sports	22
Madison Square Garden Network	6
Movietime	17
New England Sports Network	13
Nickelodeon (West)	4
Nostalgia Channel	21
The Playboy Channel	24
Playboy On Demand	24
Prime Ticket	20
The Silent Network	23V
SportsChannel-New England	23
SportsVision	9
WPIX—New York	19

Satcom II-R (GE Americom)

	Transponder
WABC	4
WCBS	2
WNBC	12

Satcom I-R (GE Americom)

	Transponder
Digital Cable Radio	15
Home Sports Entertainment	10
KKGO	16
KTLA	16
KTVT (Dallas/Ft. Worth)	3
Prime Ticket Network	7
Sunshine Network	11

Westar III (Western Union)

	Transponder
CNN	5

Westar IV (Western Union)

	Transponder
Cable News Network (CNN)	16
International Television Network	10D

Westar V (Western Union)

	Transponder
Moody Broadcasting Network	7D
Pro-Am Sports System (PASS)	8
Zephyr Weather Information Service	7D

Telstar 303 (AT&T)

	Transponder
American Exxxtasy	19

Galaxy I (Hughes)

	Transponder
Arts & Entertainment Network	12
CBN Family Channel	11
Cinemax (East)	19
CNN	7
Country Music Television	13
The Discovery Channel	22
The Disney Channel (East)	4
(West)	24
Electra	18
Prevue Guide	3
Eco	20
ESPN	9
HBO (West)	1
Headline News	8
The Inspirational Network	17
The Movie Channel (East)	10
(West)	14
The Nashville Network	2
Seeburg Adult Contemporary	3
Seeburg Contemporary Instrumental	3
Showtime (East)	5
Showtime (West)	16
Superstation TBS	18
Univision	5
USA Network (East, Central)	21
WGN	3
WWOR	15

Galaxy II

	Transponder
Stardust Theatre	2

Galaxy III

	Transponder
ACTS-Satellite Service	7
Cable Value Network	9
Cable Video Store	5
C-SPAN	24V
C-SPAN II	14V
Eternal Word Television Network	10
Galactic Radio	11
Home Premiere Television	16
Lifetime	20
The Meadows Racing Network	17
Mind Extension University	11
MTV	17
Nick At Nite	19
Nickelodeon	19
NuStar	12
Video Hits One (VH1)	15
Viewer's Choice 1+2	21,18
The Weather Channel	13

Spacenet I (GTE)

	Transponder
RFD TV	23
SelecTV	2

Spacenet II (GTE)

	Transponder
Zap! Movies 1,2,3	2,1,12
Zap! Previews	6

Note: A company name in parentheses following a service or network designates the transponder owner. Source: International Thomson Communications Inc.

Top 100 MSO's

Rank	Multiple system operator	Basic subs	
1.	Tele-Communications Inc.	5,182,790	(8/88)
2.	American Television & Communications Corp.	3,780,000	(5/88)
3.	Continental Cablevision	2,228,000	(4/88)
4.	Storer Cable Communications	1,488,534	(5/88)
5.	Warner Cable Communications	1,471,766	(9/88)
6.	Cox Cable Communications	1,441,849	(5/88)
7.	Comcast	1,383,724	(3/88)
8.	United Cable	1,210,426	(5/88)
9.	Viacom Cable	1,097,000	(6/88)
10.	Newhouse Broadcasting	1,078,336	(6/88)
11.	Cablevision Systems Corp.	1,073,822	(9/88)
12.	Heritage Communications	1,057,541	(5/88)
13.	Jones Intercable	1,019,871	(8/88)
14.	Times Mirror Cable TV	933,541	(4/88)
15.	Sammons Communications	841,687	(5/88)
16.	UA Cablesystems	814,612	(6/88)
17.	Century Communications Corp.	715,000	(8/88)
18.	Paragon Communications	677,400	(4/88)
19.	Cooke Cablevision	625,000	(8/88)
20.	Adelphia Communications	611,590	(8/88)
21.	Falcon Cable TV	611,490	(9/88)
22.	Cablevision Industries	599,376	(7/88)
23.	Centel Cable	545,399	(9/88)
24.	Telecable Corp.	545,361	(8/88)
25.	Rogers Cablesystems Inc.	529,708	(12/87)
26.	Daniels & Associates	525,117	(4/88)
27.	Scripps-Howard	475,000	(8/88)
28.	Wometco Cable TV	429,662	(5/88)
29.	Prime Cable	422,442	(5/88)
30.	Post-Newsweek Cable	391,000	(8/88)
31.	Tele-Media	384,648	(5/88)
32.	Multivision Cable TV	381,627	(4/88)
33.	WestMarc Communications	344,555	(7/88)
34.	TCA Group	337,999	(1/88)
35.	Lenfest Group	327,378	(4/88)
36.	Maclean Hunter Cable TV	322,225	(4/88)
37.	Multimedia Cablevision	313,167	(4/88)
38.	Rifkin & Associates	300,200	(5/88)
39.	Colony Communications	262,457	(6/88)
40	Western Communications	259,396	(6/88)
41.	TKR Cable	251,056	(7/88)
42.	Star Cablevision Group	245,950	(6/88)
43.	Simmons Communications	235,000	(8/88)
44.	Cencom Cable	227,052	(9/88)
45.	Communications Service Inc.	225,000	(4/88)
46.	Service Electric Cable TV Inc.	220,000	(8/88)
47.	Taft Cablepartners	207,880	(6/88)
48.	Hauser Communications	199,141	(4/88)
49.	Greater Media	170,558	(6/88)
50.	Harron Communications	164,389	(5/88)
51.	Media General	164,200	(6/88)
52.	Columbia International	161,243	(4/88)
53.	Sutton Capital Group	158,463	(8/88)
54.	U.S. Cable Corp.	146,242	(6/88)
55.	Armstrong Utilities	146,203	(5/88)
56.	McDonald Group	142,548	(4/87)
57.	Triax Communications	141,000	(6/88)
58.	Insight Communications	140,000	(8/88)
59.	Palmer Communications	135,861	(9/88)
60.	Summit Communications	130,108	(6/88)
61.	Cable Systems USA	129,078	(4/88)
62.	Sonic Communications	116,656	(6/88)
63.	King Videocable	116,086	(5/88)
64.	Bresnan Communications	115,227	(8/88)
65.	Northland Communications	115,226	(4/88)
66.	Booth Communications	111,000	(8/88)
67.	Susquehanna Broadcasting	108,486	(6/88)
68.	Midcontinent Cable Systems Co.	102,672	(8/88)
69.	United Video Management	97,000	(8/88)
70.	Omega Communications	90,500	(3/88)
71.	Coaxial Communications	90,363	(8/88)
72.	WEHCO Video	90,038	(8/88)
73.	Pencor Services	87,077	(5/88)
74.	Selkirk Communications	74,428	(8/88)
75.	Rock Associates	67,802	(5/88)
76.	Chambers Communications Corp.	63,000	(8/88)
77.	Mountain Cable Co.	61,246	(8/88)
78.	Cardinal Communications	58,000	(8/88)
79.	Gilbert Media	58,000	(5/88)
80.	Douglas Communications	56,463	(9/88)
81.	Hearst Communications Of California	56,003	(8/88)
82.	State Cable TV	52,939	(3/88)
83.	C-TEC Cable Systems	52,398	(9/88)
84.	Joseph Gans Cable TV	52,000	(4/88)
85.	Helicon Corp.	50,000	(3/88)
86.	New England Cablevision	49,586	(6/88)
87.	Bachow & Elkin Communications	49,142	(6/88)
88.	Galaxy Cablevision	48,500	(4/88)
89.	Prestige Cable TV Inc.	48,434	(5/88)
90.	Telesat Cablevision Inc.	47,755	(4/88)
91.	Donrey Media Group	45,869	(5/88)
92.	CableAmerica	42,337	(5/88)
93.	Leonard Communications	42,178	(5/88)
94.	Eastern Connecticut Cable TV	41,444	(9/88)
95.	CableSouth Inc.	41,390	(5/88)
96.	James Cable Partners	38,857	(9/88)
97.	Acton Corp.	38,500	(12/87)
98.	ParCable	35,210	9/88
99.	Countryside Cable	35,000	(2/88)
100.	Mickelson Media	30,611	(7/88)

Subscriber counts are provided by MSOs and systems to *CableVision*. Figures will be updated quarterly unless information is provided by MSOs or systems. Send updates to *CableVision*, Attention: Cable Stats, 432 Park Avenue So., Ste. 1010, New York, NY 10016.

Top 100 Systems

Rank	Location	Operator	Basic subs	
1.	Woodbury (Long Island), NY	Cablevision Systems Corp.	305,985	(7/88)
2.	San Diego, CA	Cox Cable	284,343	(3/88)
3.	Manhattan, NY	ATC	245,000	(3/88)
4.	San Antonio, TX	Rogers Cablesystems	221,894	(12/87)
5.	East Orange, NJ	Maclean Hunter	203,117	(5/88)
6.	Puget Sound, WA	Viacom	203,000	(6/88)
7.	Honolulu, HI	ATC	194,000	(3/88)
8.	Phoenix, AZ	Times Mirror	191,126	(4/88)
9.	Houston, TX	Warner	189,104	(6/88)
10.	Hartford/Plainville/Vernon, CT	United	172,289	(5/88)
11.	Chicago (suburbs)	Continental	168,000	(4/88)
12.	Wayne, NJ	UA Cablesystems	166,241	(6/88)
13.	Louisville/Jeff. Co., KY	Storer Communications	163,722	(5/88)
14.	Englewood, CO	United	161,002	(5/88)
15.	Rochester, NY	ATC	161,000	(6/88)
16.	Cincinnati, OH	Warner	158,929	(5/88)
17.	Hampton Roads, VA	Cox Cable	158,003	(3/88)
18.	Fairfax, VA	Media General	154,000	(6/88)
19.	Atlanta, GA	Prime Cable	153,557	(3/88)
20.	Jacksonville, FL	Continental Cablevision	153,000	(4/88)
21.	Tulsa, OK	United	152,287	(5/88)
22.	Connecticut Complex	Cablevision Co.	147,847	(7/88)
23.	Cherry Hills, NJ	NYT	145,075	(7/87)
24.	Orlando,FL	ATC	143,500	(6/87)
25.	San Jose/Campbell, CA	Gill Cable	137,962	(5/88)
26.	Kansas City, MO	ATC	137,000	(12/87)
27.	Baltimore County, MD	Comcast	136,098	(6/88)
28.	Upper Manhattan, NY	Paragon	136,000	(4/88)
29.	Buffalo, NY	Adelphia Communications	132,801	(3/88)
30.	Charlotte, NC	ATC	128,000	(3/88)
31.	St. Louis Co., MO	Cencom Cable	127,576	(9/88)
32.	Memphis/W. Memphis, TN	ATC	126,000	(12/87)
33.	San Francisco, CA	Viacom	123,000	(6/88)
34.	Pompano, FL	Continental	123,000	(4/88)
35.	San Diego, CA	ATC	121,000	(3/88)
36.	Long Island, NY	Viacom	120,700	(3/88)
37.	Austin, TX	ATC	119,000	(3/88)
38.	Seattle, WA	TCI	112,500	(12/87)
39.	Warren, NJ	TKR	112,116	(7/88)
40.	Toledo, OH	Blade Communications	108,861	(5/88)
41.	Dallas, TX	Heritage	107,680	(5/88)
42.	Southeast Michigan	Comcast	104,803	(6/88)
43.	San Juan, PR	Multivision Cable	104,757	(12/86)
44.	Grand Rapids, MI	UA Cablesystems	103,661	(6/88)
45.	Wilmington, DE	Heritage	103,256	(5/88)
46.	Jefferson Parish/Kenner, LA	Cox Cable	101,919	(3/88)
47.	Pinellas County, FL	Vision Cable	100,614	(6/88)
48.	Tacoma, WA	Viacom	99,000	(6/88)
49.	Raleigh/Durham, N.C.	ATC	98,000	(3/88)
50.	Indianapolis, IN	Comcast	97,790	(6/88)
51.	Escondido, CA	Times Mirror	96,519	(4/88)
52.	Richmond, VA	Continental	94,584	(4/88)
53.	Dade/Broward, FL	Storer	94,577	(5/88)
54.	Boston, MA	Cablevision Co.	92,181	(8/88)
55.	Pittsburgh, PA	TCI	91,000	(12/87)
56.	Nashville, TN	Viacom	90,000	(6/88)
57.	Chicago, IL	Group W	89,500	(7/88)
58.	Worcester Complex, MA	Greater Media	89,497	(6/88)
59.	Jackson MS/Monroe LA	ATC	89,000	(3/88)
60.	Milwaukee, WI	Warner	88,126	(5/88)
61.	Wichita, KS	Multimedia Cablevision	86,929	(12/87)
62.	Las Vegas, NV	Prime Cable	86,852	(5/88)
63.	Orange County, CA	Times Mirror	86,607	(4/88)
64.	Greensboro, NC	ATC	86,000	(3/88)
65.	Brooklyn, NY	Warner	83,086	(9/88)
66.	Dover, Morristown, NJ	Sammons	82,871	(5/88)
67.	Portland, OR	Rogers	82,587	(6/88)
68.	Harrisburg, PA	Sammons Communications	82,334	(5/88)
69.	South Bend, IN	Heritage	80,776	(5/88)
70.	Oakland County, MI	United	80,564	(5/88)
71.	New Orleans, LA	Cox Cable	80,348	(3/88)
72.	Baton Rouge, LA	Daniels & Assocs.	79,586	(4/88)
73.	Akron, OH	Warner	79,070	(5/88)
74.	Hillsborough, FL	Paragon	79,000	(4/88)
75.	Columbus, OH	Warner	78,454	(5/88)
76.	Indianapolis,IN	ATC	78,000	(3/88)
77.	St. Petersburg, FL	Paragon	78,000	(4/88)
78.	Albuquerque, NM	Jones Intercable	77,599	(8/88)
79.	Medford Complex Boston Suburbs, MA	Warner	77,167	(5/88)
80.	South Texas, TX	Heritage	77,160	(5/88)
81.	Fresno, CA	Continental	76,328	(9/88)
82.	Naples, FL	Palmer	76,312	(9/88)
83.	Cleveland Heights, OH	Viacom	76,000	(6/88)
84.	Allentown, PA	Service Electric	75,000	(9/87)
85.	Melbourne/Cocoa, FL	ATC	74,200	(6/87)
86.	Fayetteville, NC	ATC	74,000	(3/88)
87.	Flint, MI	Comcast	72,923	(6/88)
88.	Little Rock, AR	Storer	72,681	(5/88)
89.	Providence/Warwick, RI	Times Mirror	73,605	(5/88)
90.	Omaha, NE	Cox Cable	73,361	(3/88)
91.	Ocean County, NJ	Adelphia	72,355	(3/88)
92.	Lincoln, RI	Heritage	71,625	(5/88)
93.	Pleasant Hill, CA	WestMarc Communications	71,077	(9/88)
94.	Oklahoma City, OK	Cox Cable	70,371	(3/88)
95.	Des Moines, IA	Heritage	70,148	(5/88)
96.	Santa Monica, CA	Century	69,900	(12/86)
97.	W. San Fernando Valley, CA	Cablevision Industries	69,378	(7/88)
98.	Birmingham, AL	ATC	69,000	(3/88)
99.	El Paso, TX	Paragon	69,000	(4/88)
100.	Syracuse, NY	NewChannels	68,617	(6/88)